US005123201A

United States Patent [19]

Reiter

[11] Patent Number: 5,123,201

[45] Date of Patent: Jun. 23, 1992

[54] SENSOR-TRIGGERED SUCTION TRAP FOR COLLECTING GRAVID MOSQUITOES

[75] Inventor: Ian P. Reiter, Santurce, P.R.

[73] Assignee: The United States of America as represented by the Department of Health and Human Services, Washington, D.C.

[21] Appl. No.: 653,338

[22] Filed: Feb. 11, 1991

[51] Int. Cl.[5] A01M 1/20

[52] U.S. Cl. 43/107; 43/111; 43/121

[58] Field of Search 43/107, 111, 112, 113; 340/567, 522

[56] References Cited

U.S. PATENT DOCUMENTS

2,300,765	11/1942	Barnhart	43/139
2,829,384	4/1958	Studler .	
2,879,620	3/1959	McGinnis	43/113
3,214,861	11/1965	Arther	43/139
3,965,608	6/1976	Schuman	43/110
3,997,999	12/1976	Evans	43/107
4,141,174	2/1979	Smith	43/139
4,179,691	12/1979	Keller	340/567
4,275,523	6/1981	Baima et al.	43/112
4,282,673	8/1981	Focks et al.	43/113
4,411,094	10/1983	Spackova et al.	43/121
4,755,674	7/1988	Schaaf	340/567
4,794,725	1/1989	Numerick	43/139

OTHER PUBLICATIONS

Reiter, P., "A Revised Verison of the CDC Gravid Mosquito Trap", *Journal of the American Mosquito Control Association*, vol. 3, (Jun. 1987), pp. 325-327.

Reiter, P., "Operational and Scientific Notes: A Portable, Battery-Powered Trap for Collecting Gravid Culex Mosquitoes", *Mosquito News*, vol. 43, No. 4, (Dec. 1983), pp. 496-498.

Primary Examiner—Richard K. Seidel
Assistant Examiner—Chuck Y. Mah
Attorney, Agent, or Firm—Lowe, Price, LeBlanc & Becker

[57] ABSTRACT

A trap for collecting gravid mosquitos includes a smooth surfaced vessel containing oviposition attractant, such as an infusion of hay in water. A strip of rough material is located above the surface of the oviposition attractant. An infrared sensor adjacent the strip and above the surface of the oviposition attractant activates a trigger circuit which turns on a fan. The smooth surfaced vessel is unsuitable for oviposition by a gravid mosquito. The rough strip, however, provides a mosquito attempting to lay eggs with a good purchase above the water. When a mosquito finds the rough strip and moves towards the water, the mosquito interrupts an infrared beam. The infrared sensor activates the trigger circuit to turn on the fan for a short period. The fan produces an air flow through a suction tube to draw the mosquito through the suction tube into a collection tube. The inventive trap is fully automated, robust, and does not damage mosquitos during capture.

20 Claims, 1 Drawing Sheet